



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,173	11/18/2003	John Christopher Adams	043197.271470	5997

826 7590 02/08/2006

ALSTON & BIRD LLP  
BANK OF AMERICA PLAZA  
101 SOUTH TRYON STREET, SUITE 4000  
CHARLOTTE, NC 28280-4000

EXAMINER
----------

DESAI, ANISH P

ART UNIT	PAPER NUMBER
----------	--------------

1771

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/717,173	<b>Applicant(s)</b> ADAMS ET AL.	
	<b>Examiner</b> Anish Desai	<b>Art Unit</b> 1771	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 November 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7, 10-15, 17, 19-21, 24, 26 and 28-37 is/are pending in the application.
- 4a) Of the above claim(s) 28-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-15, 17, 19-21, 24, 26 and 31-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

The applicant's arguments in response to the Office action dated 06/16/05 have been fully considered.

1. The requirement for election restriction is maintained.
2. The 35 USC § 112 rejections of claims 6,16,18,25, and 27 are withdrawn.
3. The 35 USC § 101 rejections of claims 16,18,25, and 27 are withdrawn.
4. All of the art rejections are withdrawn in view of the present amendments.

However, a new ground of rejection is made in view of Mori (US 5,908,687).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1,3-7,10-14,17,19-21,24,26, and 32-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori (US 5,908,687) in view of Hodakowski et al. (US 4,260,703).

Mori teaches a heat-sensitive stencil including a thermoplastic resin film and a porous resin layer formed thereon (Abstract). Regarding claims 1,19, Mori teaches a heat-sensitive stencil including a thermoplastic resin film, and a porous resin layer formed thereon (see Abstract). The thermoplastic resin film has a thickness of 0.5 to 10 micrometers, more preferably 1 to 7 micrometers (Column 4, lines 52-54). The porous

Art Unit: 1771

resin layer contains surfactant and is used for the formation of foam (Column 4, lines 33-35). Note that the examiner is not giving any patentable weight to "master" as stated in the preamble. Because Mori's reference teaches all the structure limitations of the heat-sensitive stencil master as claimed in claim 1. Moreover, the examiner is equating porous resin layer of Mori as solid resinous foam layer as claimed in claim 1. The thermoplastic materials are heat sensitive. The examiner is interpreting heat sensitive polymeric film of claim 1 as polymeric film that can be soften when exposed to heat. With respect to claim 19, Mori teaches porous resin layer containing fibers wherein fibers comprise carbon fibers (Column 2, lines 46-47 and lines 49-51).

Regarding claim 3, Mori teaches the porous resin layer, which contains fibers (see Abstract).

Regarding claims 4,5, 20, and 21, Mori teaches the diameter of fibers not greater than 16 micrometers (Column 2, lines 60-62). Thus the fiber diameter of Mori reads on the claimed fiber diameter as claimed in claims 4 and 20. The length of the fibers disclosed in Mori's invention is 30 micrometers to 10 millimeters (Column 2, lines 48-50), which read on the claimed length of the fibrous material as claimed in the claims 4,5,20, and 21.

With respect to claims 6 and 7, Mori teaches the fibers may be for example, glass fibers, carbon fibers and synthetic polymer fibers (Column 2, lines 50-52).

Regarding claim 13, Mori teaches an antistatic agent (Column 4, lines 23-25).

With respect to claim 14, Mori discloses the thermoplastic film may be backed by a stick-preventing layer containing a stick-preventing agent (Column 4, lines 55-57).

Additionally, the example 1 of Mori's invention teaches that a stick-preventing layer is applied to the backside of the polyester film opposite the porous layer (Column 8, lines 20-23).

Regarding claims 17 and 26, the stencil disclosed in the invention of Mori is heated imagewise by, for example, a thermal head to perforate the heated portion of the thermoplastic resin film, thereby obtaining a printing master for reproducing images by mimeographic printing (Column 1, lines 10-13). The examiner is equating perforations of the thermoplastic resin films as taught by Mori as voids as claimed in claims 17 and 26.

With respect to claims 1, 10-12,19, and 24, Mori further teaches the use of polyurethane as suitable resin that can be used to form the porous resin layer (Column 4, line 14). Mori is silent as to teaching of foam comprising polyurethane cross-linked through unsaturated acrylate groups and resin is cross-linked by electron beam irradiation. However, Hodakowski et al. disclose novel urethane-acrylates and radiation curable compositions (see Title). Hodakowski et al. also teach electron beam curing to cure coatings (Column 1, lines 20-28). The examiner is equating urethane-acrylates of Hodakowski et al. as polyurethane cross-linked through unsaturated acrylate groups as claimed in claim 12. Additionally, Hodakowski et al. teach coating composition of their invention can be applied to any acceptable substrates such as a plastic film (Column 5, lines 37-40). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the electron beam curable urethane-acrylates of Hodakowski et al. in the porous resin layer of Mori, motivated by the desire to provide a

Art Unit: 1771

porous resin layer containing urethane acrylate that can be cured using the electron beam radiation. Additionally, it has been shown in the art that the use of a cross-linked coating can impart increase in the mechanical properties of the coating such as tensile strength.

Regarding claims 32-37, Mori as modified by Hodakowski teaches claimed invention except the stiffness to coating weight ratio of the stencil master as claimed in claims 32-37. However it is reasonable to presume that the heat-sensitive stencil of Mori as modified by Hodakowski has the stiffness to coating weight ratio as claimed in claims 32-37 because like material has like property. The applicant is using a heat-sensitive polymeric film having thickness of 10 micrometer wherein a solid foam comprising a cross-linked resin and a foaming agent is coated on the heat-sensitive polymeric film. Further, the solid foam coating of applicant comprises filler such as carbon fibers. Mori as modified by Hodakowski teaches a heat-sensitive stencil comprising a thermoplastic resin film and a porous resin layer formed thereon wherein the porous resin comprises urethane-acrylates which are cross-linked. Additionally, the porous resin of Mori as modified by Hodakowski comprises carbon fibers and a surfactant (foaming agent). Thus, the heat-sensitive stencil of Mori as modified by Hodakowski is similar to the applicant's heat –sensitive stencil master. Note that reliance upon inherency is not improper even though rejection is based on the 35 USC Section 103 instead of 35 USC Section 102.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori (US 5,908,687) in view of Hodakowski et al. (US 4,260,703) as applied to claim 1 above, and further in view of Coates (US 4,082,887).

The invention of Mori as modified by Hodakowski as applied to claim 1 is previously disclosed. Further, Mori teaches the surfactant of can be anionic, cationic, nonionic or ampholytic which can be used in the formation of foam. According to Mori, the use of anionic surfactant can provide good foam forming property and foam stabilizing property (Column 4, lines 33-37). Mori is silent as to teaching of HLB of surfactant to be greater than 6. However, Coates discloses a coating composition, which is applied to a fibrous nonwoven sheet of polyolefin, and dried to provide a sheet having antistatic properties, high water barrier and antislip properties (See Abstract). The coating contains nonionic surfactant having HLB of about 6-10 (see Abstract). Coates teaches that a value of HLB lower than 6 results in uneven application of coating (Column 4, lines 5-6). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the anionic surfactant with HLB of greater than 6, disclosed in the invention of Coates in the porous resin layer of Mori, motivated by the desire to provide even coating layer of the porous resin over the thermoplastic film of Mori.

7. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori (US 5,908,687) in view of Hodakowski et al. (US 4,260,703) as applied to claim 1 above, and further in view of Hoey (US 3,804,700).

The invention of Mori as modified by Hodakowski as applied to claim 1 is previously disclosed. Mori is silent as to teaching of the foaming agent comprising ammonium stearate or a sulphate foaming agent. However, Hoey teaches a decorative laminate consisting of substrate such as textile fabric, crushed thermoset foam self-adhered thereto and a top layer of clear film (Column 1, lines 3-5). The laminae are self-adhered or self-bonded; i.e. no extraneous adhesive is needed. In addition Hoey teaches that the foam may be laminated to other substrates such as plastic films (Column 5, lines 7-10). Further, Hoey teaches that commonly in laminating fabrics to foams or foams to other layers such as a transparent film, the practice is to use a separate adhesive layer for such bonding or to use thermoplastic material that can be softened and bonded by heat and pressure. The invention of Hoey makes it unnecessary to use such adhesives, thus substantially reducing the number of operations necessary to achieve the product of the invention (Column 1, lines 28-37). Note that one objective of the applicant's invention is to provide a method of manufacture of thermosensitive stencil that avoids the use of adhesive (see Background of the Invention, page 3, lines 11-13). Moreover, Hoey teaches suitable foam-forming-foam stabilizing agents such as sulfate-lauryl alcohol, lauryl sulfate-lauric acid, sodium lauryl sulfate, and other commonly used foamed stabilizers or foaming agents (Column 5, lines 2-6). The said foaming agents of Hoey meet the claimed limitation of sulphate foaming agent as claimed in claim 15. Note that although Hoey do not explicitly teach ammonium stearate, Hoey do suggest that any other commonly used foamed stabilizers or foaming agents can be used. Thus a skilled artisan could also use ammonium



stearate as a foaming agent. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the sulphate containing foaming agents of Hoey in the porous resin layer of Mori, motivated by the desire to obtain a foamed porous resin layer of Mori.

8. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori (US 5,908,687) in view of Hodakowski et al. (US 4,260,703) as applied to claim 1 above, and further in view of Yoshida (Japan Patent Application No. 11-179699). US 6,357,347 to Yoshida is relied on as equivalent form of Japan Patent Application No. 11-179699 for convenience.

The invention of Mori as modified by Hodakowski et al. as applied to claim 1 is previously disclosed. Mori further teaches porous resin layer comprising synthetic polymer fibers. Mori is silent as to teaching of polyester fibers. However, Yoshida teaches a stencil sheet formed by laminating a thermoplastic resin film and a porous support wherein the porous support comprises polyester fibers (Column 2, lines 59-61, Column 3, line 44-45). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the polyester fibers of Yoshida and added to the porous resin layer of Mori, motivated by the desire to improve the tensile strength of the heat-sensitive stencil of Mori.

***Response to Arguments***

9. Applicant's arguments filed 11/16/05 have been fully considered but they are not persuasive.

10. Applicant's election with traverse of Group I claims 1-27 in the reply filed on 11/16/05 is acknowledged. The traversal is on the ground(s) that there would be no undue burden on the Examiner to examine claims of Group I (claims 1-27) and Group II (claims 28-30). The examiner respectfully disagrees. The examiner would like to direct the applicant's attention to pages 2-3 of the Office action dated 06/16/03 in which the examiner has clearly shown the burden on the Office in examining claims of Group I and Group II. Thus, the requirement is still deemed proper.

11. The 35 USC § 112 rejections of claims 6,16,18,25, and 27 are withdrawn in view of the present amendment and response (see pages 8 and 9 of the 11/16/05 amendments).

12. The 35 USC § 101 rejections of claims 16,18,25, and 27 are withdrawn because claims 16,18,25, and 27 are cancelled (see pages 8 and 9 of the 11/16/05 amendments).

13. All of the art rejections are withdrawn in view of the present amendments and response (see pages 4-7 and 9 of 11/16/05 amendments).

The applicant argues that the examiner has stated the polyurethane resin of the '687 patent can be cross-linked. Applicant further argues that the '687 patent does not teach or suggest cross-linking of polyurethane or any of the resins mentioned in the '687 patent. The examiner recognizes that the '687 patent does not suggest of cross-

linking of polyurethane. However, the examiner is not relying on the '687 patent as teaching the resin being cross-linked but rather on the disclosure of the '703 patent. Further, the applicant argues that Examples 6A and 6B of the present application illustrate an increase of stiffness possible using the cross-linked resin according to the present invention. The examiner acknowledges applicant's argument. However, the argument is not found persuasive because the argument is not commensurate with the scope of the claim because nothing in the claims indicates the increase in the stiffness due to the cross-linked resin.

The applicant argues that there is no suggestion or motivation in either '687 patent or the '703 patent disclosing the use of cross-linked resins such as cross-linked urethane acrylates. The examiner respectfully disagrees. In response, the examiner wishes to point out that the '687 patent teaches a heat-sensitive stencil wherein the heat-sensitive stencil of the '687 patent comprises a thermoplastic film layer and a porous resin layer is coated thereon. Additionally, the '687 patent is concerned with providing sufficient tensile strength to the heat-sensitive stencil using a porous coating layer (Column 2, lines 54-55, Column 2, line 67, Column 3, line 1). The '703 patent is directed towards a urethane-acrylate coating composition that is cross-linked. Further, the '703 patent teaches the cross-linked coating composition can be applied to any suitable substrates such as plastics films (Column 5, lines 37-40). Note that porous resin of the '687 patent is also applied on the thermoplastic film. Moreover, Table II of the '703 patent discloses tensile strength values of the urethane-acrylate coatings. Both cited references ('687 patent and '703 patent) are related to the coating provided on the

Art Unit: 1771

thermoplastic film layer. Thus, a skilled artisan would have been motivated, in the view of teaching of the '703 patent to use the cross-linked coating composition comprising urethane-acrylates in the porous resin layer of '687 patent to provide sufficient tensile strength to the coating. Therefore the art rejections are sustained.

**Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anish Desai whose telephone number is 571-272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

APD

*Haivo*

**HAIVO**  
**PRIMARY EXAMINER**